

Amendments to the Specification:

Please replace the abstract with the following amended abstract:

An image processing unit (100,200,300) for computing a sequence of output images on basis of a sequence of input images, comprises: a motion estimation unit (102) for computing a motion vector field on basis of the input images; a quality measurement unit (104) for computing a value of a quality measure for the motion vector field; an interpolation unit (106) for computing the output images by means of interpolation of pixel values of the input images, on basis of the motion vector field; and control means (108) to control the interpolation unit (106) on basis of the quality measure. The quality measurement unit (104) is arranged to compute the value of the quality measure on basis of a maximum difference between neighboring motion vectors. If the value of the quality measure is lower than a predetermined threshold, then a motion compensated interpolation is performed, else a non-motion compensated interpolation is performed.